

Amendments to the Claims

1-20. (Cancelled)

21. (Currently amended) A method for production of salt from sea brine ~~and or~~ subsoil brine with reduced calcium ion ~~impurity, impurities, by removing calcium from the sea brine or subsoil brine,~~ comprising (i) culturing marine cyanobacteria obtained from hyper-saline habitat in brine, (ii) inoculating the resultant cyanobacterial culture to concentrated raw brine for uptake of calcium ~~ion ions,~~ (iii) removing the cyanobacteria from the raw brine and immersing it ~~the cyanobacteria~~ in dilute brine to ooze out accumulated calcium in the resultant cyanobacterial mass, (iv) recycling the cyanobacteria in a fresh batch of raw brine, (v) evaporating the treated raw brine up to a density of ~~25.5 of 25.5~~ °Be', (vi) charging the resultant brine into a crystallizer and allowing salt to be produced up to a density of 29 °Be', ~~wherein removal of calcium ions by cyanobacteria results in salt having reduced calcium ion impurities.~~

22. (Currently amended) The method as claimed in claim 21, wherein the marine cyanobacteria are obtained from hyper-saline environments in the west seacoast of India, and belong to the class of cyanophycae *Cyanophycae*.

23. (Previously presented) The method as claimed in claim 21, wherein the marine cyanobacteria are from the families of *Oscillatoriaceae*, *Nostocaceae* and *Chroococcaceae*.

24. (Previously presented) The method as claimed in claim 21, wherein the marine cyanobacteria are selected from the group consisting of *Lyngbya aestuarii* SM-1, *Oscillatoria* sp., *Spirulina* sp., *Anabaena* sp. and *Synechocystis* sp..

25. (Currently amended) The method as claimed in claim 24, wherein the marine cyanobacteria are selected from the group consisting of (1) *Lyngbya aesturaii* SM-1 (ATCC PTA-4602) and (2) ~~a the Consortium (ATCC PTA-4603)~~ ATCC PTA-4603.

26. (Previously presented) The method as claimed in any one of claims 21-23, wherein the marine cyanobacteria are used either singly or in the form of a consortium.

27. (Previously presented) The method as claimed in any one of claims 21-23, wherein the marine cyanobacteria are isolated in pure form using a serial dilution method.

28. (Currently amended) The method as claimed in claim 27, wherein the isolated cultures are present marine cyanobacteria are cultured in brine without any added nutrients.

29. (Currently amended) The method as claimed in claim 28, wherein the cultures are present marine cyanobacteria are cultured in brine of 3-16 °Be' density for a period of 36-72 hours.

30. (Currently amended) The method as claimed in claim 21, wherein the brine resulting from (ii) has a density in the range of 18-25 °Be' and a major portion of calcium ion ions impurity in the brine is converted to gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) during concentration of the brine beyond 14 °Be', thereby minimizing ~~a the~~ load on the marine cyanobacteria and simultaneously minimizing ~~a the~~ volume of brine.

31. (Currently amended) The method as claimed in claim 30, wherein the raw concentrated brine treated by the method resulting from (ii) has a density of 20-24 °Be'.

32. (Previously presented) The method as claimed in claim 21, wherein the fresh wet weight of cyanobacteria inoculated into the raw concentrated brine is in the range of 1-10 g/L.

33. (Currently amended) The method as claimed in claim 32, wherein the cyanobacteria is in contact with the raw concentrated brine for a contact time is of 6-48 hours.

34. (Currently amended) The method as claimed in claim 21, wherein the cyanobacteria removes 1-100% of residual content of calcium ions in the concentrated brine.

35. (Currently amended) The method as claimed in claim 34, wherein 30-70% of residual content of calcium ions is removed.

36. (Currently amended) The method as claimed in claim 21, wherein the cyanobacteria after substantial uptake of calcium ion ions from concentrated raw brine is exposed to dilute brine of density in the range of 3-15 °Be' during a declining phase of its activity, so as for a time effective to ooze out a substantial amount of the accumulated calcium ion ions before the cyanobacteria is recycled into a fresh batch of concentrated raw brine.

37. (Previously presented) The method as claimed in claim 36, wherein exposure to the dilute brine is conducted for 1-2 hours.

38. (Previously presented) The method as claimed in claim 21, that is implemented in solar salt works.